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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,744	01/23/2006	Toshihiro Kowaki	5404134	2020
757	7590	12/24/2008	EXAMINER	
BRINKS HOFER GILSON & LIONE P.O. BOX 10395 CHICAGO, IL 60610				DOLLINGER, MICHAEL M
ART UNIT		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/565,744	KOWAKI ET AL.	
	Examiner	Art Unit	
	MICHAEL DOLLINGER	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-23 is/are pending in the application.
 - 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) Claim(s) ____ is/are allowed.
- 6) Claim(s) 1-5 is/are rejected.
- 7) Claim(s) 6-23 is/are objected to.
- 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 23 January 2006 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. ____ .
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
<u>Paper No(s)/Mail Date 01/23/2006, 09/08/2006, 11/19/2007, 01/15/2008,</u>	6) <input type="checkbox"/> Other: ____ .
<u>04/14/2008, 06/06/2008 and 07/21/2008.</u>	

DETAILED ACTION

Claim Objections

1. Claim 2 is objected to because of the following informalities: the period “.” is placed in the middle of the claim, the period must be moved to the end of the claim after the formula so that the claim is one complete sentence. Appropriate correction is required.
2. Claims 6-23 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternate only. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 2, 4 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Regarding claim 2, the parameter m is undefined. Examiner notes that in Applicant's specification [page 10], as well as claim 2 of continuation-in-part application 11/345,952, m represents 0 to 150.
6. Regarding claim 4, the parameter x is undefined and the parameters n is defined but does not appear in any of the formulae 2-4. Examiner notes that claim 4 of

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continuation-in-part application 11/345,952 contains very similar formulae 2-4 with clearly defined parameters for all the formulae.

7. Regarding claim 5, the parameter x is undefined and the parameters R^2 , p and y are defined but do not appear in the formulae 5-7. Examiner notes that claim 5 of continuation-in-part application 11/345,952 contains very similar formulae 5-7 with clearly defined parameters for all the formulae.

Double Patenting

8. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

9. Claims 1 and 3 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1 and 3 of copending Application No. 11/345,952 a provisional double patenting rejection since the conflicting claims have not in fact been patented.

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims

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are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 2, 4 and 5 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 2, 4, 5 and 7-22 of copending Application No. 11/345,952. Although the conflicting claims are not identical, they are not patentably distinct from each other. The difference between the copending claims and the instant claims is that the chemical formulae 3-7 of the copending claims are more specifically defined than those of the instant claims. It is clear that all the elements of the instant claims are to be found in the copending claims (as the instant claims fully encompass copending claims). The difference between the instant claims and the copending claims lies in the fact that the copending claims include more elements and are thus more specific. Thus the invention of copending claims is in effect a "species" of the "generic" invention of instant claims. It has been held that the generic invention is "anticipated" by the "species". See *In re Goodman*, 29 USPQ2d 2010 (Fed. Cir. 1993). Since instant claims are anticipated by the copending claims, they are not patentably distinct from each other.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

12. If the formulae and parameters in claims 2, 4 and 5, discussed above in the 35 USC 112 2nd Paragraph rejection, are amended to coincide with the corresponding claims of Application No. 11/345,952, then all the above claims may be rejected under statutory type double patenting under 35 USC 101.

13. Claims 1-5 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3 and 6 of copending Application No. 10/579,994. Although the conflicting claims are not identical, they are not patentably distinct from each other. The differences between the copending claims and the instant claims are that 1) copending claim 1 contains an additional component C reaction accelerator and 2) the range for the subscript m in formula 1 of the copending claims is different from ranges of the subscript m in formulae 1, 2 and 5 in the instant claims. Regarding the difference 1), the instant claims have comprising language that is open to additional components. Regarding the difference 2), the ranges of the subscript m are overlapping; in the case where the claimed ranges overlap or lie inside ranges disclosed by the prior a *prima facie* case of obviousness exists *In re Wertheim*, 541 F.2d 257, 1911 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

14. Claims 1-5 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3 and 4 of copending Application No. 10/592,393. Although the conflicting claims are not identical, they are not patentably distinct from each other. The differences between the copending claims and the instant claims are that 1) copending claim 1 contains an additional component C phosphorous compound and 2) the ranges for the subscripts in formulae 1-4 of the copending claims is different from ranges of the subscripts in formulae 1-7 in the instant claims. Regarding the difference 1), the instant claims have comprising language that is open to additional components. Regarding the difference 2), the ranges of the subscripts are overlapping; in the case where the claimed ranges overlap or lie inside ranges disclosed by the prior *a prima facie* case of obviousness exists *In re Wertheim*, 541 F.2d 257, 1911 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

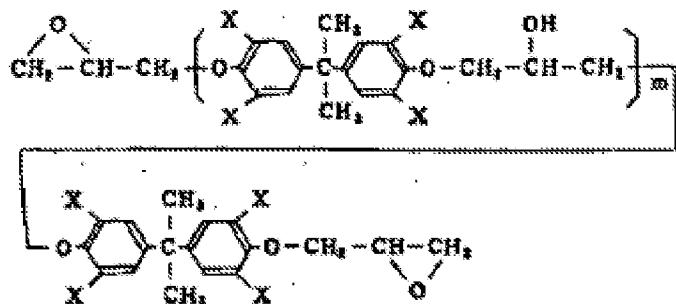
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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

16. Claims 1, 3 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Ilzaka et al (JP 60-071713).

17. Ilzaka et al disclose a flame retardant synthetic fiber with (A) 100 parts by weight of thermoplastic polyester, e.g. polyethylene terephthalate, and (B) 3 to 80 parts by weight of the reaction product of a halogenated bisphenol A based diglycidyl ether and a halogenated bisphenol A [abstract]. The compound B may be of the formula:



wherein m is 5-10 [page 4 top-right column].

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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19. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

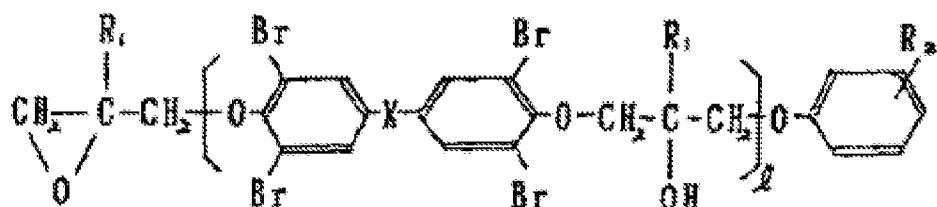
obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

20. Claims 1 and 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Akisuke et al (JP 62170519).

21. Akisuke et al disclose a flame-retardant polyester yarn containing 100 parts by weight of polyester consisting essentially of polyethylene terephthalate blended with 0.1 to 8 parts by weight of halogenated glycidyl ether compound [abstract]. The halogenated glycidyl ether compound is represented by the following formula:



[page 6-3]

wherein R₁ is H or methyl, R₂ is H or 1-4C alkyl, and l is an integer ≥ 1 [abstract].

22. The disclosed range of the amount of the halogenated glycidyl ether compound overlaps with the claimed range of the amount of the brominated epoxy flame retardant. In the case where the claimed ranges overlap or lie inside ranges disclosed by the prior *a prima facie* case of obviousness exists *In re Wertheim*, 541 F.2d 257, 1911 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

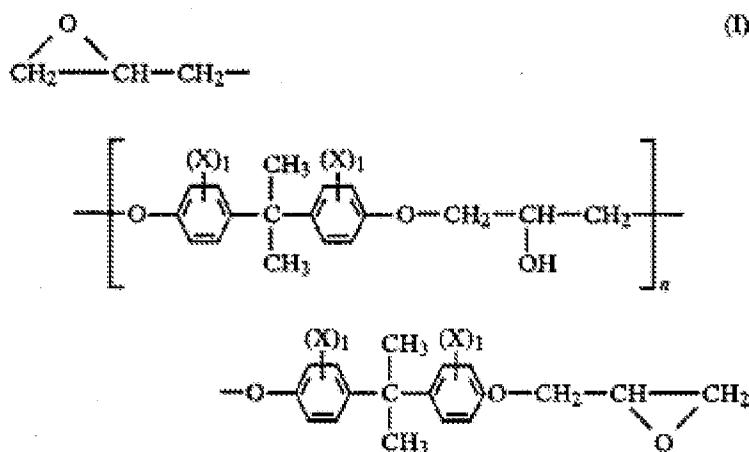
23. Claims 1-3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al (WO03/008679, herein US 7,332,563 B2 is used as an English language translation) in view of Hochberg et al (US 4,732,921).

24. Masuda et al disclose a polyester based fiber and artificial hair made therefrom comprising polyalkylene terephthalate [abstract] which is selected from the group consisting of polyethylene terephthalate, polypropylene terephthalate and polybutylene terephthalate [3:34-38]. The fiber has fine protrusions on the surface of the fiber with the major axis of the protrusion is 0.2 to 20 μm , the minor axis is 0.1 to 10 μm , the height is 0.1 to 2 μm , and the number of protrusions per $100 \mu\text{m}^2$ fiber surface is at least 1 [7:8-13].

25. Masuda et al do not disclose a flame retardant corresponding to the claimed brominated epoxy flame retardant. However, Masuda et al do teach that the hair fiber may include additional flame retardants [23:10-15].

26. Hochberg et al disclose a flame retardant for 40 to 90 part by weight of polybutylene terephthalate and 5 to 20 parts by weight of halogenated bisphenol A diglycidyl ether polymer [4:3-8]. The flame retardant is of the formula:

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wherein n is an integer describing the degree of polymerization and is sufficient to provide a molecular weight of from about 20,000 to about 40,000, e.g., at least 32; X is a bromine or chlorine atom; and I may be the same or different for each aromatic substituent and is an integer of 1 to 4 [3:43-4:2]. Hochberg et al teach that the halogenated epoxy flame retardant provides a fiber with vastly improved fatigue strength and melt flow characteristics over fibers with other flame retardants [4:10-19].

27. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have prepared a polyester fiber with minute projections and comprising a halogenated epoxy flame retardant because Masuda et al teach that it is within the skill of the art to prepare a polyester fiber with minute protrusions and Hochberg et al teach that it is within the skill of the art to add a brominated epoxy resin flame retardant. One would have been motivated to do use the flame retardant of Hochberg et al in the polyester fiber of Masuda et al because Masuda et al teach that the polyester fiber may contain additional flame retardants and Hochberg et al teach that the halogenated epoxy flame retardant provides a fiber with vastly improved fatigue

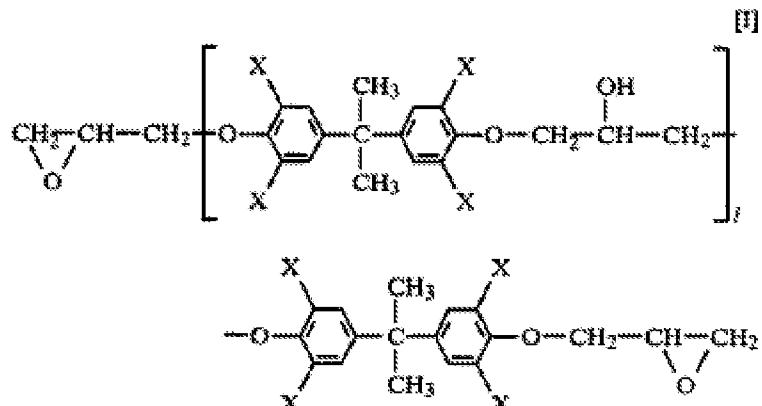
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strength and melt flow characteristics over fibers with other flame retardants. Absent any evidence to the contrary, there would have been a reasonable expectation of success in using the flame retardant of Hochberg et al in the fiber of Masuda et al.

28. Claims 1 and 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al (WO03/008679, herein US 7,332,563 B2 is used as an English language translation) in view of Kishida et al (US 4,562,216).

29. Masuda et al, discussed above, do not disclose a flame retardant of corresponding to the claimed brominated epoxy flame retardant. However, Masuda et al do teach that the hair fiber may include additional flame retardants [23:10-15].

30. Kishida et al disclose flame retardant polyester resin compositions comprising 1 to 20 parts by weight of a flame retardant of formula I [2:38-40] per 100 parts by weight of thermoplastic polyester [2:49-50]. Formula I has the general formula:



in which X is hydrogen, chlorine or bromine and I is an average value of 0-11 [2:60-3:11]. The flame retardant is preferably used in combination with an inorganic material [2:28-31] which is preferably talc, kaolin, silica, mica, and others [7:12-16]. Kishida et al

teach that the inventive flame retardant results in polyester composition exhibiting outstanding forming and machining properties [2:16-20] and that the flame retardant with the inorganic compound further improves flame retardancy [2:28-31].

31. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have prepared a polyester fiber with minute projections and comprising a halogenated epoxy flame retardant and inorganic particle because Masuda et al teach that it is within the skill of the art to prepare a polyester fiber with minute protrusions and Kishida et al teach that it is within the skill of the art to add a brominated epoxy resin flame retardant preferably in combination with an inorganic compound. One would have been motivated to do use the flame retardant and inorganic compounds of Kishida et al in the polyester fiber of Masuda et al because Masuda et al teach that the polyester fiber may contain additional flame retardants and Kishida et al teach that the halogenated epoxy flame retardant and inorganic particle results in polyester composition exhibiting outstanding forming and machining properties and improved flame retardancy. Absent any evidence to the contrary, there would have been a reasonable expectation of success in using the flame retardant of Kishida et al in the fiber of Masuda et al.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL DOLLINGER whose telephone number is

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(571)270-5464. The examiner can normally be reached on Monday - Thursday 7:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Randy Gulakowski/
Supervisory Patent Examiner, Art Unit 1796

MICHAEL DOLLINGER
Examiner
Art Unit 1796

/mmd/